

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for performing pressure, ~~respectively pressure profile,~~ measurements in a mammals by means of athe pressure profile sensors technique, which comprises

a) introducing into the mammal a catheter lumen having at least a portion of its wall which is sufficiently flexible to be deflected by external pressure;

b) introducing progressively into the catheter lumen an electrically conductive liquid substance while applying simultaneously to it alternative current and mechanical oscillations;

c) detecting by means of an electrode placed at an ~~the~~ external surface of the ~~subject mammal~~ the ~~a~~ leakage current induced by the liquid substance traveling through the catheter;

d) transferring the leakage current thus recorded to a converter suitable to convert the leakage current ~~parameters~~ provided thereto into corresponding pressure values; and

e) displaying the pressure values as such, or as a function of athe measurement location or measurement period or both, to afford corresponding pressure profiles.

2. (currently amended) ~~Method~~ The method of claim 1, wherein the alternative current is a low voltage and /high frequency current and wherein the mechanical oscillations have controlled amplitude and frequency.

3. (currently amended) The method ~~Method~~ according to claim 1, wherein the catheter is made of innocuous polymer plastic material, ~~preferably of non-conductive innocuous polymer plastic material.~~

4. (currently amended) ~~The method~~Method according to claim 1, wherein the catheter is a single lumen or a multi-lumen catheter.

5. (currently amended) ~~The method~~Method according to claim 1, wherein the electrically conductive liquid substance is an aqueous liquid, ~~preferably a saline solution.~~

6. (currently amended) ~~The method~~Method according to claim 1, wherein the electrically conductive liquid substance is progressing step-by-step through the catheter lumen.

7. (currently amended) ~~The method~~Method according claim 1, wherein the alternative current voltage applied to the electrically conductive liquid substance is ~~comprised between about 500 mV and about 6 V, preferably between about 1 and about 4 V.~~

8. (currently amended) ~~The method~~Method according to claim 1, wherein the alternative current frequency applied to the electrically conductive liquid substance is ~~comprised between about 60 and 130 kHz, preferably between about 80 and 120 kHz.~~

9. (currently amended) ~~The method~~Method according to claim 1, wherein the mechanical oscillations applied to the electrically conductive liquid substance have a maximum amplitude of about 4 mm and a maximum frequency of about 15 Hz~~have an amplitude of about max. 4 mm and a frequency of about max 15 Hz, preferably of about 2mm, respectively about 10 Hz.~~

10. (currently amended) ~~Use of the method according to claim 1 for performing~~Performing pressure, ~~respectively pressure profile measurements in mammal body tracts or cavities such as lung, esophagus, stomach, intestine, urinary tract or bladder, or blood vessels using the method of claim 1.~~

11. (currently amended) ~~Use of the method according to claim 1 for performing~~Performing real time pressure, ~~respectively pressure profile measurements using the method of claim 1.~~

12. (currently amended) ~~Use of the method of claim 1 for performing~~Performing
~~ex-temporaneum pressure, respectively pressure profiles measurements~~ using the
method of claim 1 by recording the pressure values provided by the converter and by
displaying them at a time different from that of the leakage current recording.

13. (currently amended) An apparatus for performing the method of claim 1,
which comprises

a source of an electrically conductive liquid substance connected to an
alternative current source;

peristaltic pumping means fitted directly to the source of liquid substance;

mechanical oscillation means connected downwards to peristaltic pumping
means;

an electrode capable of being placed at the external surface of the ~~subject~~
mammal for recording and then transferring ~~a the~~ detected leakage current to a the
converter;

a converter suitable for deriving pressure values from the leakage current
parameters which have been transferred thereto; and

means suitable to display pressure values as such, or as a function of the
measurement location or measurement period or both.

14. (new) Method according to claim 9, wherein the mechanical oscillations
applied to the electrically conductive liquid substance have an amplitude of about 2 mm
and a frequency of about 10 Hz .

15. (new) The method according to claim 3, wherein the catheter is made of
non-conductive innocuous polymer plastic material.

16. (new) The method according to claim 5, wherein the electrically conductive
liquid substance is a saline solution.

17. (new) The method according claim 7, wherein the alternative current voltage applied to the electrically conductive liquid substance is between about 1 and about 4 V.

18. (new) The method according to claim 8, wherein the alternative current frequency applied to the electrically conductive liquid substance is between about 80 and 120 kHz.

19. (new) Performing pressure profile measurements in mammal body tracts or cavities comprising a lung, esophagus, stomach, intestine, urinary tract or bladder, or blood vessels, using the method of claim 10.

20. (new) Performing ex-temporaneum pressure profile measurements using the method of claim 12 by recording the pressure values provided by the converter and by displaying them at a time different from that of the leakage current recording.